

National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
For the **Napoleon Wastewater Treatment Plant**

Public Notice No.: 15-03-004
Public Notice Date: March 3, 2015
Comment Period Ends: April 2, 2015

Ohio EPA Permit No.: **2PD00000*RD**
Application No.: **OH0020893**

Name and Address of Applicant:
Occurs:

City of Napoleon
P.O. Box 151
Napoleon, Ohio 43545

Name and Address of Facility Where Discharge

Napoleon WWTP
735 East Washington Street
Napoleon, Ohio 43545
Henry County

Receiving Water: **Maumee River**

Subsequent Stream Network: **Lake Erie**

Introduction

Development of a fact sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This fact sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES permit effluent limitations. The technical basis for the fact sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This fact sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act and Ohio Water Pollution Control Law, Chapter 6111 of the Ohio Revised Code (ORC). Decisions to award variances to water quality standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the fact sheet where necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the Clean Water Act. Many of these have already been established by U.S. EPA in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the secondary treatment regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the

Fact Sheet for NPDES Permit Renewal, Napoleon WWTP, 2015

upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the wasteload allocation for a pollutant to a measure of the effluent quality. The measure of effluent quality is called PEQ - Projected Effluent Quality. This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

Summary of Permit Conditions

The effluent limits and monitoring requirements proposed for the following parameters are the same as in the current permit, although some monitoring frequencies have changed: temperature, dissolved oxygen, total suspended solids (TSS), oil and grease, ammonia, nitrite plus nitrate, nickel, zinc, cadmium, lead, chromium, dissolved hexavalent chromium, rainfall, pH, total filterable residue and 5-day carbonaceous biochemical oxygen demand (CBOD₅).

New water-quality-based limits are needed for copper because effluent data shows there is reasonable potential for the exceedance of WQS.

A lower, variance based limit is proposed for mercury.

Final effluent limits are proposed for *Escherichia coli*. New water quality standards for *E. coli* became effective in March 2010.

A slightly lower monthly loading limit is proposed for phosphorus based on an increased number of significant figures.

Annual chronic toxicity monitoring with the determination of acute endpoints is proposed for the life of the permit. This satisfies the minimum testing requirements of rule 3745-33-07(B)(11) of the Ohio Administrative Code (OAC) and will adequately characterize toxicity in the plant's effluent.

Current permit limits and monitoring requirements for chlorine are being removed because effluent data shows that they no longer have the reasonable potential to contribute to exceedances of water quality standards. Napoleon has switched from using chlorine disinfection to using ultraviolet disinfection.

The draft permit continues a revised compliance schedule for combined sewer overflow abatement; this is based on previously negotiated schedules between the City of Napoleon and Ohio EPA.

The draft permit also contains a compliance schedule requiring Napoleon to develop a Sewer Overflow Response Plan.

New Sanitary Sewer Overflow outfalls have been included in the draft permit.

In Part II of the permit, special conditions are included that address sanitary sewer overflow (SSO) reporting; operator certification, minimum staffing and operator of record; whole effluent toxicity testing; outfall signage; downstream public water supply notification; and phosphorus optimization.

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Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

The Ohio EPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Ashley Ward (Central Office), ashley.ward@epa.ohio.gov, (614) 644-4852 or Peggy Christie (Northwest District Office), peggy.christie@epa.ohio.gov, (419) 373-3006.

Information Regarding Certain Water Quality Based Effluent Limits

This draft permit may contain proposed water quality based effluent limitations for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: http://epa.ohio.gov/portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf.) In accordance with Ohio Revised Code Section 6111.03(J)(3), the Director established these water

quality based effluent limits after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the timely submitted National Pollutant Discharge Elimination System (NPDES) permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall deliver or mail this information to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, written notification for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed water quality based effluent limitations for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable water quality standard(s) used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in Ohio Administrative Code (OAC) Rule 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific water quality standard(s) pursuant to OAC Rule 3745-1-35. The permittee shall submit written notification regarding their intent to develop site specific water quality standards for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

Location of Discharge/Receiving Water Use Classification

Napoleon WWTP discharges to the Maumee River at river mile 46.05. Figure 1 shows the approximate location of the facility.

This segment of the Maumee River is described by Ohio EPA River Code: 04-001, U.S. EPA River Reach #: 04100009-009, County: Henry, Ecoregion: Huron-Erie Lake Plain. The Maumee River is designated for the following uses under Ohio's water quality standards (OAC 3745-1-11): Modified Warmwater Habitat (MWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), Public Water Supply (PWS) and Class A Primary Contact Recreation (PCR).

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric water quality standards are developed to protect these uses. Different uses have different water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal Clean Water Act. Ohio WQS also include aquatic life use designations for waterbodies which can not meet the Clean Water Act goals because of human-caused conditions that can not be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact) and wading only (Secondary Contact - generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural and industrial water supply.

Facility Description

The Napoleon WWTP was constructed in 1958. The most recent major modification was made in 1998. The facility has a design flow of 2.5 MGD. Wet stream processes include screening, comminution, grit removal, primary settling, biotowers, aeration, secondary clarification and ultraviolet disinfection. The City recently constructed a 2.5 MG equalization basin with primary treatment to store peak flows.

Solid stream processes include sludge stabilization by anaerobic digestion, drying beds, sludge storage and recycling of stabilized sludge by land application at agronomic rates.

The Napoleon WWTP collection system is 90 percent separate and 10 percent combined, and 100 percent of the service area has sewers.

The current permit contains a compliance schedule for implementing the City's approved CSO Long Term Control Plan. The overall schedule was determined in the July 25, 2000 Director's Final Findings and Orders. This schedule is being continued in the draft permit. Napoleon has requested a three year delay in construction projects to allow for additional studies to identify sources of infiltration and inflow

(I/I) of clean water into the sewer system. Ohio EPA has agreed to the request and the LTCP compliance schedule in the draft permit reflects this by having all construction project due dates three years later than in the existing permit. Ohio EPA has also agreed to allow a five year delay in the final completion date for LTCP projects. Napoleon is required to increase monitoring and submit a revised LTCP based on the obtained monitoring data by December 31, 2017.

In addition to the timing changes to Napoleon's LTCP, updated wet weather language has been added to the compliance schedule in the draft permit.

The current permit also contains a compliance schedule for the development of a Sewer Overflow Response Plan (SORP). Currently, the regulator manhole upstream of CSO Station 003 occasionally overflows. This manhole is located in the parking lot between Napoleon Middle School and Central Elementary. When this manhole overflows it sends combined untreated sewage across the school parking lot and grassy area adjacent to the playground and into the nearest surface water drainage ditch. This manhole is not a permitted outfall location. Any overflows at this location are prohibited and should be reported under Station 304 of the City's NPDES permit. These SSOs are located in an area that has a high probability of exposing a sensitive population (i.e. children) to overflows that may contain microorganisms that can cause serious illnesses. The schedule of compliance requires that a water level probe be installed to alert staff to surcharging in this manhole and the SORP establishes protocols for when the manhole overflows.

Napoleon does not implement an Ohio EPA approved industrial pretreatment program. The City has twenty-one industrial users that discharge a total of 0.901 MGD to the WWTP, including one non-categorical significant user that discharges 0.035 MGD and one categorical user that discharges 0.038 MGD.

Description of Existing Discharge

Table 1 presents chemical specific data collected by Ohio EPA.

Table 2 presents a summary of unaltered discharge monitoring report (DMR) data for outfall 2PD00000001. Data are presented for the period March 2009 through February 2014, and current permit limits are provided for comparison.

Tables 3 and 4 summarize the results of acute and chronic whole effluent toxicity tests of the final effluent reported by Napoleon WWTP and Ohio EPA, respectively.

Assessment of Impact on Receiving Waters

Comprehensive biological and water quality data were collected in 1997. Based on this data, the Maumee River was listed as impaired. Causes of impairment are direct habitat alterations, flow alterations, nutrients, siltation, total toxics, turbidity and unionized ammonia-nitrogen. This information is included in the 2012 Ohio Integrated Water Quality Monitoring and Assessment Report and is available on the Ohio EPA website at <http://epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx>.

A Total Maximum Daily Load (TMDL) study is currently in progress to address impairments to the Maumee River. This study is scheduled to be completed sometime in 2015 and will be posted on the Ohio EPA website at http://www.epa.state.oh.us/dsw/tmdl/index.aspx#TMDL_Projects.

Development of Water-Quality-Based Effluent Limits

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

Parameter Selection Effluent data for the Napoleon WWTP were used to determine what parameters should undergo wasteload allocation. The parameters discharged are identified by the data available to Ohio EPA - DMR data submitted by the permittee, compliance sampling data collected by Ohio EPA, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

Self-monitoring data (DMR)	March 2009 through February 2014
Ohio EPA compliance sampling data	2012

The data were examined, and the following values were removed from the evaluation to give a more reliable projection of effluent quality: nitrite plus nitrate, 0.3mg/L on September 1, 2010.

This data is evaluated statistically, and Projected Effluent Quality (PEQ) values are calculated for each pollutant. Average PEQ (PEQ_{avg}) values represent the 95th percentile of monthly average data, and maximum PEQ (PEQ_{max}) values represent the 95th percentile of all data points. The average and maximum PEQ values are presented in Tables 1 and 2.

The PEQ values are used according to Ohio rules to compare to applicable water quality standards (WQS) and allowable wasteload allocation (WLA) values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required. See Tables 5 and 5A for a summary of the screening results.

Wasteload Allocation For those parameters that require a WLA, the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio WQS (OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. WLAs using this method are done using the following general equation: Discharger WLA = (downstream flow x WQS) - (upstream flow x background concentration). Discharger WLAs are divided by the discharge flow so that the allocations are expressed as concentrations. The assimilative capacity of the Maumee River was distributed between the Napoleon WWTP and Campbell Soup because the two facilities are close enough together that the pollutants discharged by the two facilities are interactive. WLA has been done in two parts; one part for common parameters of both Napoleon WWTP and Campbell Soup and the other part for parameters only of Napoleon WWTP.

The applicable waterbody uses for this facility's discharge and the associated stream design flows are as follows:

Aquatic life		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia	Average	Summer 30Q10

Wildlife
Agricultural Water Supply
Human Health (nondrinking)

Winter 30Q10
Annual 90Q10
Harmonic mean flow
Harmonic mean flow

Allocations are developed using a percentage of stream design flow as specified in Tables 6 and 6A, and allocations cannot exceed the Inside Mixing Zone Maximum criteria.

Ohio's water quality standard implementation rules [OAC 3745-2-05(A)(2)(d)(iv)] required a phase out of mixing zones for bioaccumulative chemicals of concern (BCCs) as of November 15, 2010. This rule applied statewide. Mercury is a BCC. The mixing zone phase-out means that as of November 15, 2010 all dischargers requiring mercury limits in their NPDES permit must meet water quality standards at the end-of-pipe, which are 1.3 ng/L (average) and 1700 ng/L (maximum) in the Lake Erie basin.

The data used in the WLA are listed in Tables 6, 6A, 7, and 7A. The wasteload allocation results to maintain all applicable criteria are presented in Tables 8 and 8A. The current ammonia limits have been evaluated using the wasteload allocation procedures and are protective of water quality standards for ammonia toxicity.

Whole Effluent Toxicity WLA Whole effluent toxicity (WET) is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent.

Water quality standards for WET are expressed in Ohio's narrative "free from" WQS rule [OAC 3745-1-04(D)]. These "free froms" are translated into toxicity units (TUs) by the associated WQS Implementation Rule (OAC 3745-2-09). Wasteload allocations can then be calculated using TUs as if they were water quality criteria.

The wasteload allocation calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU_c) and 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1Q10 flow for the maximum. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. For Napoleon WWTP, the wasteload allocation values are 1.0 TU_a and 1.88 TU_c .

The chronic toxicity unit (TU_c) is defined as 100 divided by the IC_{25} :

$$TU_c = 100/IC_{25}$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (*Ceriodaphnia dubia* only):

$$TU_c = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

The acute toxicity unit (TU_a) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC_{50}) for the most sensitive test species:

$$TU_a = 100/LC_{50}$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations.

Reasonable Potential/ Effluent Limits/Hazard Management Decisions

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the water quality standards must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a water quality standard or do not require a wasteload allocation based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum wasteload allocations are selected from Tables 8 and 8A. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Tables 1 and 2, and the PEL_{max} is compared to the PEQ_{max} . Based on the calculated percentage of the allocated value [$(PEQ_{avg} \div PEL_{avg}) \times 100$, or $(PEQ_{max} \div PEL_{max}) \times 100$], the parameters are assigned to group 3, 4, or 5. The groupings are listed in Tables 5 and 5A.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 9 presents the final effluent limits and monitoring requirements proposed for Napoleon WWTP outfall 2PD00000001 and the basis for their recommendation.

Flow, temperature and rainfall

Based on best engineering judgment, monitoring for flow, temperature and rainfall is proposed to continue from the existing permit.

Oil and grease, pH, and E. coli

Limits proposed for oil and grease, pH, and *Escherichia coli* are based on water quality standards (OAC 3745-1-07). Class A Primary Contact Recreation *E. coli* standards apply to the Maumee River.

Total suspended solids, 5-day carbonaceous biochemical oxygen demand and dissolved oxygen

Proposed summer limits for CBOD₅, and DO are all based on plant design. These limits meet the current WLA and are protective of WQS.

Proposed limits for TSS and winter CBOD₅ are proposed to continue from the existing permit and are technology-based treatment standards included in 40 CFR Part 133, Secondary Treatment Regulation. Secondary treatment is defined by Best Practicable Waste Treatment Technology criteria, which are required of all publicly owned treatment works discharging to effluent limited stream segments (with respect to conventional pollutants).

Ammonia-nitrogen

Limits for ammonia-nitrogen are based on previous wasteload allocations and are proposed to continue from the existing permit. These limits meet the new WLA.

Phosphorus

Phosphorus is limited based on provisions of OAC 3745-33-06(C). A slightly lower phosphorus loading limit is proposed based on increased significant figures.

Dissolved Orthophosphate

New monthly monitoring is proposed for dissolved orthophosphate (as P). This monitoring is required by Ohio Senate Bill 1, which was signed by the Governor on April 2, 2015. Monitoring for orthophosphate is proposed to further develop nutrient datasets for dissolved reactive phosphorus and to assist stream and watershed assessments and studies. Ohio EPA monitoring, as well as other in-stream monitoring, is taken via grab sample, orthophosphate is proposed to be collected by grab sample to maintain consistent data to

support watershed and stream surveys. Monitoring will be done by grab sample, which must be filtered within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours.

Mercury Reasonable Potential and Mercury Variance

The Ohio EPA risk assessment (Table 5) places mercury in group 5. This placement as well as the data in Table 2 indicate that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality.

To comply with mercury limits, the permittee has applied for coverage under the general mercury variance, Rule 3745-33-07(D)(10) of the Ohio Administrative Code. Based on the results of low-level mercury monitoring, the permittee has determined that its wastewater treatment plant cannot meet the 30-day average water quality-based effluent limit (WQBEL) of 1.3 nanograms per liter (ng/L). However, the permittee believes that the plant will be able to achieve an annual average mercury effluent concentration of 12 ng/L. The variance application also demonstrated to the satisfaction of Ohio EPA that there is no readily apparent means of complying with the WQBEL without constructing prohibitively expensive end-of-pipe controls for mercury. Based on these factors, the permittee is eligible for coverage under the general mercury variance.

Ohio EPA has reviewed the mercury variance application and has determined that it meets the requirements of the Ohio Administrative Code. Items Y, Z and AA in Part II of the draft NPDES permit list the provisions of the mercury variance, and includes the following requirements:

- A variance-based monthly average effluent limit of 11.0 ng/L, which was developed from sampling data submitted by the permittee. Eleven is the 95th percentile of data submitted;
- A requirement that the permittee make reasonable progress to meet the water-quality-based effluent limit for mercury by implementing the plan of study, which has been developed as part of the Pollutant Minimization Program (PMP);
- Low-level mercury monitoring of the plant's influent and effluent;
- A requirement that the annual average mercury effluent concentration is less than or equal to 12 ng/L as specified in the plan of study;
- A summary of the elements of the plan of study;
- A requirement to submit an annual report on implementation of the PMP; and
- A requirement for submittal of a certification stating that all permit conditions related to implementing the plan of study and the PMP have been satisfied, but that compliance with the monthly average water quality-based effluent limit for mercury has not been achieved.

Copper

The Ohio EPA risk assessment (Tables 5 and 5A) place copper in group 5. This placement as well as the data in Tables 1 and 2 indicate that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. Copper is a group 5 parameter based upon the loading test (OAC 3745-2-06(B)). Pollutants that meet this requirement must have permit limits under OAC Rule 3745-33-07(A)(1).

Cadmium, chromium, dissolved hexavalent chromium, lead, nickel, nitrite plus nitrate, total filterable residue and zinc

Ohio EPA risk assessment (Tables 5 and 5A) place aluminum, arsenic, cadmium, chromium, dissolved hexavalent chromium, free cyanide, diethyl phthalate, dimethyl phthalate, iron, lead, manganese, nickel, nitrite plus nitrate, strontium, total filterable residue and zinc in groups 2 and 3. This placement as well as the data in Tables 1 and 2 support that these parameters do not have the reasonable potential to contribute

to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a low frequency is proposed for cadmium, chromium, dissolved hexavalent chromium, lead, nickel, nitrite plus nitrate, total filterable residue and zinc to document that these pollutants continue to remain at low levels.

Limits and monitoring requirements proposed for the disposal of sewage sludge by the following management practices are based on OAC 3745-40: land application, removal to sanitary landfill or transfer to another facility with an NPDES permit.

Additional monitoring requirements proposed at the final effluent, influent and upstream/downstream stations are included for all facilities in Ohio and vary according to the type and size of the discharge. In addition to permit compliance, this data is used to assist in the evaluation of effluent quality and treatment plant performance and for designing plant improvements and conducting future stream studies.

Whole Effluent Toxicity Reasonable Potential

Annual chronic toxicity monitoring with the determination of acute endpoints is proposed for the life of the permit. Evaluating the toxicity data presented in Tables 3 and 4 under the provisions of 40 CFR Part 132, Appendix F, Procedure 6 does not show reasonable potential with respect to whole effluent toxicity. While this indicates that the plant's effluent does not currently pose a toxicity problem, annual toxicity testing is proposed consistent with the minimum monitoring requirements at OAC 3754-33-07(B)(11). The proposed monitoring will adequately characterize toxicity in the plant's effluent.

Other Requirements

Sanitary Sewer Overflow Reporting

Provisions for reporting sanitary sewer overflows (SSOs) are also proposed in this permit. These provisions include: the reporting of the system-wide number of SSO occurrences on monthly operating reports; telephone notification of Ohio EPA and the local health department, and 5-day follow up written reports for certain high risk SSOs; and preparation of an annual report that is submitted to Ohio EPA and made available to the public. Many of these provisions were already required under the "Noncompliance Notification", "Records Retention", and "Facility Operation and Quality Control" general conditions in Part III of Ohio NPDES permits.

Operator Certification

Operator certification requirements have been included in Part II, Item A of the permit in accordance with rules adopted in December 2006. These rules require the Napoleon WWTP to have a Class III wastewater treatment plant operator in charge of the sewage treatment plant operations discharging through outfall 2PD00000001.

Operator of Record

In December 2006, rule revisions became effective that affect the requirements for certified operators for sewage collection systems and treatment works regulated under NPDES permits. Part II, Item A of this NPDES permit is included to implement OAC 3745-7-02. It requires the permittee to designate one or more operator of record to oversee the technical operation of the treatment works.

Storm Water Compliance

Storm water requirements, Parts IV, V and VI have not been included in the draft permit because all storm water at Napoleon WWTP is routed to the WWTP and is treated.

Outfall Signage

Part II of the permit includes requirements for signs to be placed at each outfall to the Maumee River, providing information about the discharge. Signage at outfalls is required pursuant to Ohio Administrative Code 3745-33-08(A).

Public Water Supply Notification

An addition to rule 3745-33-08 of the Ohio Administrative Code requires that permittees discharging wastewater within ten miles of a downstream public water supply intake located on the same waterway, must develop spill (or bypass) notification procedures in conjunction with the downstream public water supply operator. Since Campbell Soup Supply Company and Napoleon operate public water supply intakes less than ten miles downstream from the Napoleon WWTP, Part II, Item V of the draft permit requires the development of notification procedures within six months after the effective date of the permit.

Evaluation for Reducing Discharge of Phosphorus

Part II of the permit includes a requirement for the permittee to submit a Phosphorus Discharge Optimization Evaluation plan. The plan shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements, and minor facility modifications that will optimize reductions in phosphorus discharges from the WWTP. The plan shall include a proposed schedule for implementing discharge optimization measures identified through the evaluation process.

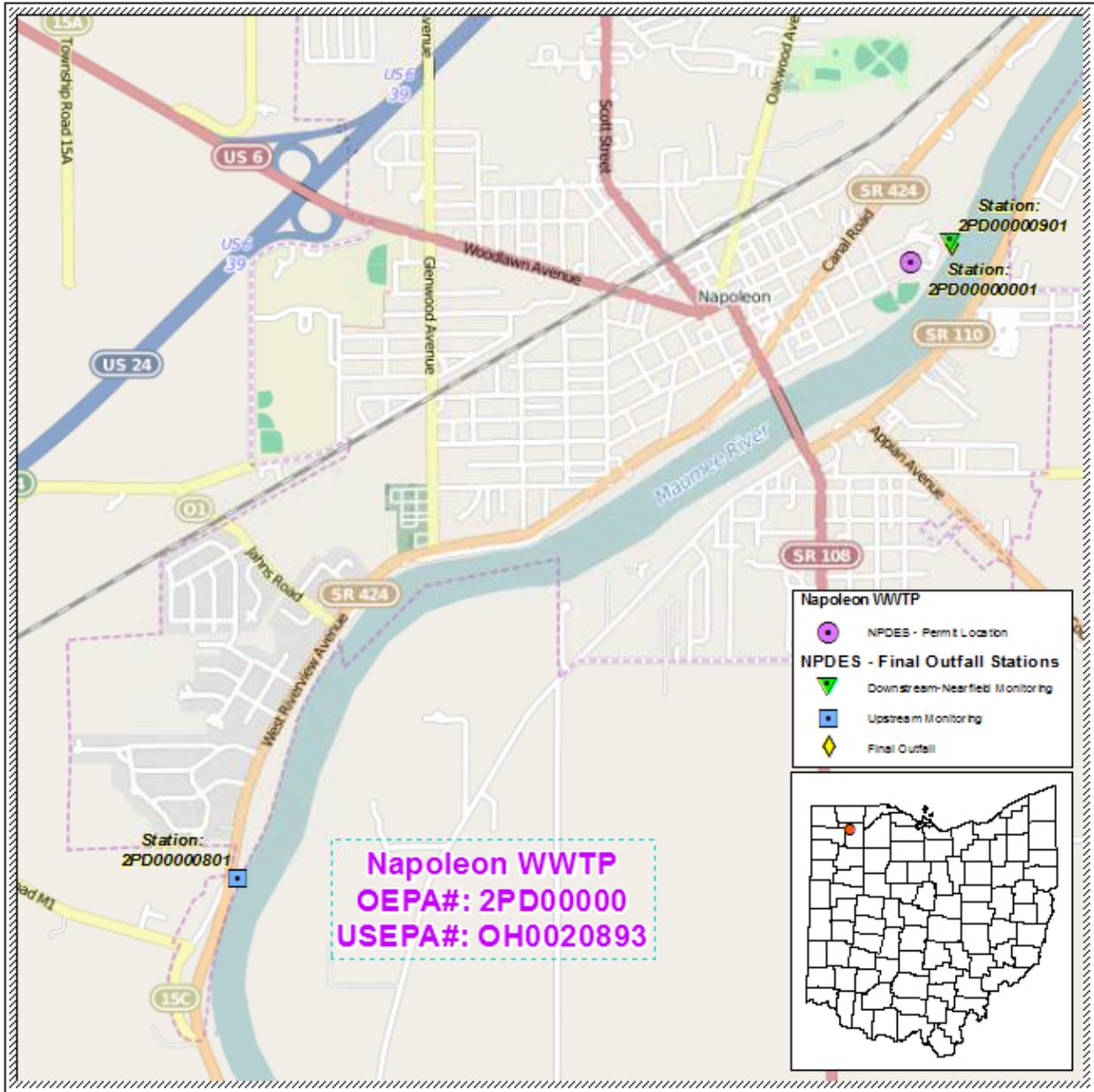


Figure 1. Location of Napoleon wastewater treatment plant.

Table 1. Effluent Characterization.

Parameter	Ohio EPA Data		Design Criteria	
	9/17/2012	10/17/2012	PEQ _{ave}	PEQ _{max}
Arsenic (µg/L)	<2.0	2.0	5.548	7.6
Copper (µg/L)	6.7	7.1	22.063	37.846
Nickel (µg/L)	5.4	6.4	8.541	11.7
Aluminum (µg/L)	1110	1350	3745	5130
Iron (µg/L)	86	70	238.6	326.8
Manganese (µg/L)	22	26	72.12	98.8
Strontium (µg/L)	1490	1700	4603	6305
Zinc (µg/L)	30	41	86.36	118.3
Diethylphthalate (µg/L)	87	<5.3	241.3	330.6
Dimethylphthalate (µg/L)	20.4	<5.3	56.59	77.52

Definitions: PEQ = Projected effluent quality.

Table 2. Effluent Characterization Using Self-Monitoring Data.

Summary of current permit limits and unaltered discharge monitoring report data for Napoleon Wastewater Treatment Plant outfall 2PD00000001 (March 2009 – February 2014). All values are based on annual records unless otherwise indicated. * = For minimum pH, 5th percentile shown in place of 50th percentile; ** = For dissolved oxygen, 5th percentile shown in place of 95th percentile; a = weekly average.

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range	Decision Criteria		
			30 day	Daily		50 th	95 th		# Obs.	PEQ _{ave}	PEQ _{max}
Outfall 001											
Water Temperature	Annual	°C	Monitor		1826	15	23	4-25			
Dissolved Oxygen	Summer	mg/L	5.0 Min	--	641	7.4	9.1	5.3-10.2	426	7.3802	8.4097
Dissolved Oxygen	Winter	mg/L	2.0 Min	--	624	10.1	11.1	7-12.7	308	10.539	11.605
Residue, Total Dissolved	Annual	mg/L	Monitor		63	825	1170	445-1210	63	1039.4	1259.5
Total Suspended Solids	Annual	mg/L	30	45 ^c	742	11	19.9	2-31	742	14.092	21.922
Oil and Grease	Annual	mg/L	--	10 max	120	0	5	0-6.4	120	3.7433	5.6787
Nitrogen, Ammonia (NH3)	Summer	mg/L	1.6	2.4 ^c	371	0.48	1.36	0.02-2.7	246	1.03	2.1169
Nitrogen, Ammonia (NH3)	Winter	mg/L	18	27 ^c	371	0.26	1.09	0.01-2.24	187	0.74509	1.5955
Nitrite Plus Nitrate, Total	Annual	mg/L	Monitor		63	17.1	27.7	0.3-31.7	63	32.9	49.692
Phosphorus, Total (P)	Annual	mg/L	1.0	1.5 ^c	317	0.65	0.96	0.18-1.73	317	0.85873	1.1563
Nickel, Total Recoverable	Annual	µg/L	Monitor		20	0	8.05	0-9	20	9.198	12.6
Strontium, Total Recoverable	Annual	µg/L	Monitor		2	1720	2350	1010-2430	2	6727	9215
Zinc, Total Recoverable	Annual	µg/L	Monitor		20	45	83.4	0-91	20	105.71	180.93
Cadmium, Total Recoverable	Annual	µg/L	Monitor		20	0	0	0-0	20	--	--
Lead, Total Recoverable	Annual	µg/L	Monitor		20	0	0	0-0	20	--	--
Chromium, Total Recoverable	Annual	µg/L	Monitor		20	0	0	0-0	20	--	--
Copper, Total Recoverable	Annual	µg/L	Monitor		20	0	18	0-36	20	29.544	48.48
Chromium, Dissolved Hexavalent	Annual	µg/L #/100	Monitor		21	0	0	0-0	21	--	--
Fecal Coliform	Annual	ml	1000 ^a	2000	369	27	536	1-1550			
Rainfall in Inches	Annual	Inches	Monitor		1704	0	0.598	0-3.06			
Flow Rate	Annual	MGD	Monitor		1826	1.43	4.74	0.713-6.55			
Chlorine, Total Residual	Annual	mg/L	0.038		199	0	0	0-0	199	--	--
Mercury, Total (Low Level)	Annual	ng/L	11.0	1700	60	2.5	11	0.7-22.8	60	7.3768	11.486
Acute Toxicity, <i>Ceriodaphnia dubia</i>	Annual	TU _a	Monitor		5	0	0	0-0			

Table 2. Effluent Characterization Using Self-Monitoring Data – Continued.

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range	Decision Criteria		
			30 day	Daily		50 th	95 th		# Obs.	PEQ _{ave}	PEQ _{max}
Chronic Toxicity, <i>Ceriodaphnia dubia</i>	Annual	TU _c	Monitor		5	0	0	0-0			
Acute Toxicity, <i>Pimephales promelas</i>	Annual	TU _a	Monitor		5	0	0	0-0			
Chronic Toxicity, <i>Pimephales promelas</i>	Annual	TU _c	Monitor		5	0	0	0-0			
pH, Maximum	Annual	S.U.		9.0 Max	1265	7.1	7.5	6.5-8			
pH, Minimum	Annual	S.U.	6.5 Min		1265	7	7.4	6-7.8			
CBOD 5 day	Summer	mg/L	15	23 ^c	370	4	7.55	1-19	245	5.468	8.8454
CBOD 5 day	Winter	mg/L	25	40 ^c	371	3	5	1-9	187	3.9885	5.93

Definitions: CBOD = Carbonaceous biochemical oxygen demand;
 PEQ = Projected effluent quality.

Table 3. Summary of Acute Toxicity Results Reported by Napoleon WWTP.

Date	Acute Toxicity Tests		Chronic Toxicity Tests	
	<i>Ceriodaphnia dubia</i> (TU _a)	<i>Pimephales promelas</i> (TU _a)	<i>Ceriodaphnia dubia</i> (TU _c)	<i>Pimephales promelas</i> (TU _c)
8/10/2009	AA	AA	AA	AA
7/11/2010	AA	AA	AA	AA
7/25/2011	AA	AA	AA	AA
7/13/2012	AA	AA	AA	AA
7/12/2013	AA	AA	AA	AA

AA = below detection limit (0.2 TU_a, 1.0 TU_c)

TU_a = acute toxicity units

TU_c = chronic toxicity units

Table 4. Summary of toxicity results reported by Ohio EPA.

Collection Date	<i>Ceriodaphnia dubia</i>								<i>Pimephales promelas</i>							
	24 Hours				48 Hours				24 Hours				48 Hours			
	UP	C	%M	AMZ	UP	C	%M	AMZ	UP	C	%M	AMZ	UP	C	%M	AMZ
9/17/2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/18/2012	0	0	0	ND	0	5	0	ND	0	0	0	ND	0	0	0	ND
9/17/12-9/18/12 ^a	0	0	0	ND	0	0	0	ND	0	0	0	ND	0	0	0	ND
10/15/2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/16/2012	0	0	0	ND	0	0	0	ND	0	0	0	ND	0	0	0	ND
10/15/12-10/16/12 ^a	0	0	0	ND	0	0	0	ND	0	0	0	ND	0	0	0	ND

^a = 24-hour composite sample

C = laboratory control water

%M = percent mortality in 100% effluent

AMZ = percent mortality in acute mixing zone

ND = not determined

UP = percent mortality in upstream control water

Table 5. Parameter Assessment for Napoleon WWTP.

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

No Group 1 parameters.

Group 2: PEQ < 25 percent of WQS or all data below minimum detection limit.
WLA not required. No limit recommended; monitoring optional.

Arsenic	Dimethyl phthalate	Iron
Chromium VI - Dissolved	Lead	Cadmium

Group 3: PEQ_{max} < 50 percent of maximum PEL and PEQ_{avg} < 50 percent of average PEL.
No limit recommended; monitoring optional.

Diethyl phthalate

Group 4: PEQ_{max} >= 50 percent, but < 100 percent of the maximum PEL or
PEQ_{avg} >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No Group 4 parameters.

Group 5: Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

<u>Parameter</u>	<u>Units</u>	<u>Recommended Effluent Limits</u>	
		<u>Average</u>	<u>Maximum</u>
Mercury	ng/L	1.3	1700

Definitions: PEL = Preliminary effluent limit;
PEQ = Projected effluent quality;
WQS = Water quality standard.

Table 5A. Parameter Assessment for Napoleon/Campbell's Soup.

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.
No Group 1 parameters.

Group 2: PEQ < 25 percent of WQS or all data below minimum detection limit.
WLA not required. No limit recommended; monitoring optional.

Manganese	Nickel	Strontium
Chromium	Nitrate-N + Nitrite-N	Cyanide - free

Group 3: PEQ_{max} < 50 percent of maximum PEL and PEQ_{avg} < 50 percent of average PEL.
No limit recommended; monitoring optional.

Aluminum	Total Filterable Residue	Zinc
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Group 4: PEQ_{max} >= 50 percent, but < 100 percent of the maximum PEL or
PEQ_{avg} >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.
No Group 4 parameters.

Group 5: Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

<u>Parameter</u>	<u>Units</u>	<u>Recommended Effluent Limits</u>	
		<u>Average</u>	<u>Maximum</u>
Copper	µg/L	27	66
Copper - TR becomes a Group 5 parameter based upon the loading test [OAC 3745-2-06(B)].			

Definitions: PEL = Preliminary effluent limit;
PEQ = Projected effluent quality;
WQS = Water quality standard.

Table 6. Instream Conditions and Discharger Flow for Napoleon Wastewater Treatment Plant (WWTP).

Parameter	Units	Season	Value	Basis
<i>Stream Flows</i>				
1Q10	cfs	annual	32	USGS 04193500
7Q10	cfs	annual	68	USGS 04193500
30Q10	cfs	summer	110	USGS 04193500
		winter	290	USGS 04193500
90Q10	cfs	annual	177	
Harmonic Mean	cfs	annual	653	USGS 04193500
Mixing Assumption	%	average	25	
	%	maximum	97.65297158	
<i>Hardness</i>	mg/L	annual	248	Napoleon 901, N=57
<i>pH</i>	S.U.	summer	8.5	Napoleon 901, N=20
		winter	7.9	Napoleon 901, N=12
<i>Temperature</i>	°C	summer	25.25	Napoleon 901, N=20
		winter	6.25	Napoleon 901, N=12
<i>Napoleon WWTP flow</i>	cfs	annual	3.87	Napoleon WWTP average design flow
<i>Background Water Quality</i>				
Arsenic	µg/L		3.4	OEPA; 2012; N=6; 0<MDL; Station 500200
Diethyl phthalate	µg/L		0	No representative data available.
Dimethyl phthalate	µg/L		0	No representative data available.
Iron	µg/L		566.7	OEPA; 2012; N=6; 0<MDL; Station 500200
Mercury	ng/L		0	No representative data available.
Chromium VI - Dissolved	µg/L		0	No representative data available.
Lead	µg/L		0.4	OEPA; 2012; N=6; 5<MDL; Station 500200
Cadmium	µg/L		0	OEPA; 2012; N=6; 6<MDL; Station 500200

Definitions: MDL = Minimum detection level;
 N = Number of samples;
 OEPA = Ohio Environmental Protection Agency;
 USGS = United States Geological Survey.

Table 6A. Instream Conditions and Discharger Flow for Napoleon/Campbell's Soup (Common Parameters).

Parameter	Units	Season	Value	Basis
<i>Stream Flows</i>				
1Q10	cfs	annual	32	USGS 04193500
7Q10	cfs	annual	68	USGS 04193500
30Q10	cfs	summer	110	USGS 04193500
		winter	290	USGS 04193500
90Q10	cfs	annual	177	
Harmonic Mean	cfs	annual	653	USGS 04193500
Mixing Assumption	%	average	25	
	%	maximum	100	
<i>Hardness</i>	mg/L	annual	248	Napoleon 901, N=57
<i>pH</i>	S.U.	summer	8.5	Napoleon 901, N=20
		winter	7.9	Napoleon 901, N=12
<i>Temperature</i>	°C	summer	25.25	Napoleon 901, N=20
		winter	6.25	Napoleon 901, N=12
<i>Napoleon WWTP flow</i>	cfs	annual	19.3	Sum of Campbell Soup and Napoleon flows
<i>Background Water Quality</i>				
Aluminum	µg/L		408.2	OEPA; 2012; N=6; 0<MDL; Station 500200
Ammonia-Summer	mg/L		0.05	Napoleon 801; 2009-14; N=20; 0<MDL; 50th percentile
Ammonia-Winter	mg/L		0.055	Napoleon 801; 2009-14; N=12; 0<MDL; 50th percentile
Copper	µg/L		11.8	OEPA; 2012; N=6; 0<MDL; Station 500200
Total Filterable Residue	mg/L		397.3	OEPA; 2012; N=6; 0<MDL; Station 500200
Manganese	µg/L		81.3	OEPA; 2012; N=6; 0<MDL; Station 500200
Nickel	µg/L		6.5	OEPA; 2012; N=6; 0<MDL; Station 500200
Strontium	µg/L		1173	OEPA; 2012; N=6; 0<MDL; Station 500200
Zinc	µg/L		12	OEPA; 2012; N=6; 3<MDL; Station 500200
Chromium	µg/L		0	OEPA; 2012; N=6; 6<MDL; Station 500200
Nitrate-N + Nitrite-N	mg/L		1.2	OEPA; 2012; N=7; 4<MDL; Station 500200

Definitions: MDL = Minimum detection level;
N = Number of samples;

OEPA = Ohio Environmental Protection Agency;
USGS = United States Geological Survey.

Table 7. Water Quality Criteria in the Study Area for Napoleon Wastewater Treatment Plant.

Parameter	Units	Outside Mixing Zone Criteria					Maximum Aquatic Life	Inside Mixing Zone Maximum
		Average						
		Wildlife	Human Health	Agri-culture	Aquatic Life			
Arsenic	µg/L	--	580	100	150	340	680	
Diethyl phthalate	µg/L	--	--	--	220	980	2000	
Dimethyl phthalate	µg/L	--	--	--	1100	3200	6400	
Iron	µg/L	--	--	5000	--	--	--	
Mercury	ng/L	1.3	3.1	10000	910	1700	3400	
Chromium VI - Dissolved	µg/L	--	14000	--	11	16	31	
Lead	µg/L	--	--	100	20	390	780	
Cadmium	µg/L	--	730	50	5	13	25	

Table 7A. Water Quality in the Study Area for Napoleon/Campbell's Soup (Common Parameters).

Parameter	Units	Outside Mixing Zone Criteria					Maximum Aquatic Life	Inside Mixing Zone Maximum
		Average						
		Wildlife	Human Health	Agri-culture	Aquatic Life			
Aluminum	µg/L	--	4500	--	--	--	--	
Ammonia-Summer	mg/L	--	--	--	0.5	--	--	
Ammonia-Winter	mg/L	--	--	--	4	--	--	
Copper	µg/L	--	64000	500	20	33	66	
Total Filterable Residue	mg/L	--	--	--	1500	--	--	
Manganese	µg/L	--	61000	--	--	--	--	
Nickel	µg/L	--	43000	200	110	1000	2000	
Strontium	µg/L	--	1400000	--	21000	40000	81000	
Zinc	µg/L	--	35000	25000	260	260	520	
Chromium	µg/L	--	14000	100	180	3800	7600	
Nitrate-N + Nitrite-N	mg/L	--	--	100	--	--	--	

Table 8. Summary of Effluent Limits to Maintain Applicable WQ Criteria for Napoleon.

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Zone Maximum
		Wildlife	Average			Maximum Aquatic Life	
			Human Health	Agri-culture	Aquatic Life		
Arsenic	µg/L	--	24903	4175	794	3058	680
Diethyl phthalate	µg/L	--	--	--	1186	8893	2000
Dimethyl phthalate	µg/L	--	--	--	5932	29039	6400
Iron	µg/L	--	--	192012	--	--	--
Mercury	ng/L	1.3	3.1	10000	910	1700	3400
Chromium	µg/L	--	604568	--	59	145	31
Lead	µg/L	--	--	4301	106	3536	780
Cadmium	µg/L	--	31524	2159	27	118	25

Table 8A. Summary of Effluent Limits to Maintain Applicable WQ Criteria for Napoleon/Campbell Soup (Common Parameters).

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Zone Maximum
		Wildlife	Average			Maximum Aquatic Life	
			Human Health	Agri-culture	Aquatic Life		
Aluminum	µg/L	--	39111	--	--	--	--
Ammonia-Summer	mg/L	--	--	--	--	--	--
Ammonia-Winter	mg/L	--	--	--	--	--	--
Copper	µg/L	--	605247	4629	27	68	66
Total Filterable Residue	mg/L	--	--	--	2471	--	--
Manganese	µg/L	--	576284	--	--	--	--
Nickel	µg/L	--	406663	1837	201	2647	2000
Strontium	µg/L	--	13232047	--	38464	104376	81000
Zinc	µg/L	--	330948	236362	478	671	520
Chromium	µg/L	--	132420	946	339	10101	7600
Nitrate-N + Nitrite-N	mg/L	--	--	936	--	--	--

Table 9. Final Effluent Limits and Monitoring Requirements.

Parameter	Units	Effluent Limits				Basis
		Concentration		Loading (kg/day)		
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Temperature	°C	Monitor		--	--	M
Dissolved Oxygen						
Winter	mg/L	2.0 min	--	--	--	EP/PD
Summer	mg/L	5.0 min	--	--	--	EP/PD
Total Suspended Solids	mg/L	30	45 ^c	284	426 ^c	BPT
Oil and Grease	mg/L	--	10	--	--	WQS
Ammonia						
Dec - May	mg/L	18	27 ^c	170	255 ^c	EP
Oct - Nov	mg/L	3.3	5.0 ^c	31.2	47.3 ^c	EP
June - Sep	mg/L	1.6	2.4 ^c	15.1	22.7 ^c	EP
Nitrite Plus Nitrate	mg/L	Monitor		--	--	M
Dissolved orthophosphate	mg/L	Monitor		--	--	SB1
Phosphorus	mg/L	1.0	1.5 ^c	9.47	14 ^c	PT
Nickel	µg/L	Monitor		--	--	M
Zinc	µg/L	Monitor		--	--	M
Cadmium	µg/L	Monitor		--	--	M
Lead	µg/L	Monitor		--	--	M
Chromium	µg/L	Monitor		--	--	M
Copper	µg/L	27	66	0.256	0.625	RP/WLA
Chromium, Dissolved Hexavalent	µg/L	Monitor		--	--	M
E. coli	#/100/mL	126	284 ^c	--	--	WQS
Rainfall	inches	Monitor		--	--	M
Flow	MGD	Monitor		--	--	M
Mercury, low level	ng/L	11.0	1700	0.000105	0.016	VAR
Whole Effluent Toxicity						
Acute, <i>Ceriodaphnia dubia</i>	Tu _a	Monitor		--	--	WET
Chronic, <i>Ceriodaphnia dubia</i>	Tu _c	Monitor		--	--	WET
Acute, <i>Pimephales promelas</i>	Tu _a	Monitor		--	--	WET
Chronic, <i>Pimephales promelas</i>	Tu _c	Monitor		--	--	WET
pH	S.U.	6.5 min	9.0 max	--	--	WQS
Total Filterable Residue	mg/L	Monitor		--	--	M
CBOD ₅						
Summer	mg/L	15	23 ^c	142	216 ^c	EP/PD
Winter	mg/L	25	40 ^c	237	379 ^c	BPT

^a Effluent loadings based on average design discharge flow of 2.5 MGD.

^b Definitions: BPT = Best Practicable Waste Treatment Technology, 40 CFR Part 133, Secondary Treatment Regulation;

CBOD = Carbonaceous oxygen demand;
EP = Existing Permit;
M = BEJ of Permit Guidance 1: Monitoring Frequency Requirements for Sanitary Discharges;
PD = Plant Design Criteria;
PT = Phosphorus treatment required under OAC 3745-33-06(C);
RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in NPDES permits [OAC 3745-33-07(A)];
SB1 = Implementation of Senate Bill 1 [ORC 6111.03];
VAR = mercury variance-based limits, OAC 3745-33-07(D)(10);
WET = Minimum testing requirements for whole effluent toxicity [OAC 3745-33-07(B)(11)];
WLA = Wasteload Allocation procedures (OAC 3745-2);
WQS = Ohio Water Quality Standards (OAC 3745-1-07).

^c Weekly average limit.